

## IN THE CLAIMS

A complete listing of all claims pending, amended and cancelled included as follows:

1. (cancelled)

2. (currently amended)      The ~~diving—mask~~user programmable personal computer of claim ~~1—19~~ wherein the personal computer system is operatively coupled to the display device such that no wiring or tether external to the ~~dive helmet~~diving mask is required.

3. (currently amended)      The user programmable personal computer~~diving mask~~ of claim ~~1—19~~ wherein the display device is operatively coupled to the computer system by short length of cabling so that no external cabling extends from the ~~diving mask~~dive helmet in a region defined by the diver's head portion to a part of the diver located away from the diver's head.

4. (currently amended)      The user programmable personal computer~~diving mask~~ of claim ~~1—19~~ wherein the voice actuation device includes a~~the~~ sound transducer that is selected from the group consisting of a microphone, crystal microphone, piezoelectric transducer, throat/larynx transducer and vibration transducer;

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Application Serial No. 09/914,969  
Filed: September 6, 2001  
Date: May 30, 2008

the computer-~~processors~~system is selected from the group consisting of a computer, microprocessor, RISC processor, single-chip computer, single-board computer, controller, micro-controller and discrete logic computer; and

the display device is selected from the group consisting of a liquid crystal display, LED display, electro-fluorescence display, gas plasma display, prism-type optic display, prismatic projection system and cathode ray tube.

5. (currently amended) The user programmable personal computer~~diving~~ mask of claim 4<sup>19</sup> further including wherein the non-volatile storage operatively coupled to the computer system, the non-volatile storage is selected from the group consisting of a ROM, PROM, EPROM, flash memory, optical memory, static memory, bubble memory, memory sticks and hard disk memory.

6. (currently amended) The user programmable personal computer~~diving~~ mask of claim 4<sup>19</sup> wherein the personal computer system further includes a speech recognition portion configured to receive and process the electrical signals from the sound transducer~~voice actuation device~~, and recognize and identify the electrical signals as the spoken words from the diver, and to provide input to the personal computer~~system~~ corresponding to the spoken words.

7. (currently amended) The user programmable personal computer~~diving~~ mask of claim 4<sup>19</sup> further including a speech recognition processor operatively coupled

to the ~~sound transducer~~voice actuation device to receive the electrical signals therefrom, and ~~operatively coupled to the computer system,~~ the speech recognition processor configured to recognize and identify the electrical signals as the spoken words from the diver and to provide input to the personal computer system corresponding to the spoken words.

8. (currently amended) The user programmable personal diving mask of computer of claim 419 wherein the personal computer system provides a plurality of predetermined functions displayed on the display device, the personal computer system performing at least one of the predetermined functions in response to the input representative of the spoken words of the diver.

9. (currently amended) The user programmable personal computer diving mask of claim 419 wherein the personal computer system provides one or more menus to the display device, each menu containing one or more predetermined functions executable by the personal computer system.

10. (currently amended) The user programmable personal computer diving mask of claim 9 wherein the plurality of menus include a hierarchical set of menus.

11. (currently amended) The user programmable personal computer diving mask of claim 8 wherein the predetermined functions are selected from the group

consisting of a menu, pull-down menus, digital camera control applications, life support applications, general purpose applications, gyroscopic/inertial sensor applications, transmitter and receiver applications and power management applications.

12. (currently amended) The user programmable personal computer~~diving mask~~ of claim 11 further including a gyroscopic/inertial sensor operatively coupled to the personal computer-system.

13. (currently amended) The user programmable personal computer ~~diving mask~~ of claim ~~11~~19 further including

a receiver system operatively coupled to the personal computer-system and configured to receive incoming data from the underwater diving environment;

a transmitter system operatively coupled to the personal computer system and configured to transmit data to the underwater diving environment; and

the receiver system and transmitter system located proximal the dive helmet~~diving mask~~ and being ~~sealingly~~ isolated from the underwater diving environment.

14. (currently amended) The user programmable personal computer~~diving mask~~ of claim 13 wherein the data is selected from the group consisting of speech data, digital data, numerical data and graphical data.

15. (cancelled)

16. (currently amended)      The user programmable personal computer~~diving mask~~ of claim 15-20 wherein the voice recognition means is operatively associated with the personal computer system~~and~~ and is configured to receive ~~the~~ electrical signals from the sound transducer, the voice recognition means being configured to recognize and identify the electrical signals as ~~the~~ spoken words from the diver and to thereby provide input to the personal computer system corresponding to the spoken words.

17. (currently amended)      The user programmable personal computer~~diving mask~~ of claim 15-20 wherein the voice recognition means further includes a voice recognition processor operatively coupled to the personal computer system~~and~~ and coupled to the sound transducer to receive ~~the~~ electrical signals therefrom, the speech recognition processor configured to recognize and identify the electrical signals as the spoken words offrom the diver and to thereby provide input to the computer system corresponding to the spoken words.

18. (cancelled)

19. (new)      A user programmable personal computer for use underwater by an underwater diver, for the input and processing of data related to underwater activities, comprising:

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a computer processor coupled to one or more data storage devices, volatile and non-volatile memory devices, one or more data input device, a voice actuation device and a display device;

a housing capable of withstanding dive pressures while protecting the computer from the ambient environment; and

a dive helmet adapted to secure the personal computer to a diver such that the display device is readily visible to the diver, whereby the diver, while under water, utilizes the one or more data input devices or voice actuation device to input data, store data in the data storage device and process the data so as to cause the computer to function providing a display of such functions visibly to the diver.

20. (new) A user programmable personal computer for use underwater by an underwater diver, for the input and processing of data related to underwater activities, comprising:

a computer processor coupled to one or more data storage devices, volatile and non-volatile memory devices, one or more data input device, a voice actuation device and a display device;

the display device having a viewing portion, defined by the diver's face and a lens, for providing visual images to the diver including providing computer output screens;

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a water-tight speaking chamber configured to sealingly engage a portion of the diver's face including the diver's mouth to permit the diver to speak while underwater so as to provide voice commands to the personal computer while underwater;

a sound transducer located proximal the speaking chamber;

the sound transducer and display device configured to provide the diver with a fully functional computer;

the personal computer, the viewing portion and the speaking chamber sealingly isolated from the underwater diving environment; and

voice recognition means for recognizing and identifying spoken words of the diver wherein the identified spoken words provided to the personal computer direct the functions of the personal computer system to process data and to provide visual images to the display device in response thereto to facilitate hands-free computer and other operations of the diver.

21. (new) A method of using a personal computer underwater by an underwater diver, for the input and processing of data related to underwater activities, comprising the steps of:

providing the diver with a diving mask having a viewing portion defined by the diver's face and a lens;

placing a visual display device proximate the viewing portion to provide visual images, including computer output screens, to the diver;

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incorporating a sound transducer within a water-tight speaking chamber, the speaking chamber configured to sealingly engage a portion of the diver's face including the diver's mouth to permit the diver to speak while underwater;

operatively coupling a personal computer system, comprising a computer processor coupled to one or more data storage devices, volatile and non-volatile memory devices, one or more and data input device with the sound transducer and the visual display device;

sealingly isolating the computer system, the viewing portion, and the speaking chamber from the underwater diving environment;

speaking while underwater into the sound transducer located proximal the speaking chamber to produce electrical voice command instructions for the personal computer;

receiving and processing the electrical voice command instructions in the personal computer system, the personal computer configured to recognizing and identifying the electrical signals as spoken words of the diver, the identified spoken words providing input to the personal computer; and

directing the personal computer to provide visual images to the visual display in response to the identified spoken words and the processing of data to facilitate hands-free operation of the diver.